

REMARKS

The Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-9 are pending. Claims 1 and 2 are amended. Claim 1 is independent. The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

Reasons for Entry of Amendments

At the outset, it is respectfully requested that this Amendment be entered into the Official File in view of the fact that the amendments to the claims automatically place the application in condition for allowance.

In the alternative, if the Examiner does not agree that this application is in condition for allowance, it is respectfully requested that this Amendment be entered for the purpose of appeal. This Amendment was not presented at an earlier date in view of the fact that the Applicants did not fully appreciate the Examiner's position until the Final Office Action was reviewed.

Drawings

It is gratefully appreciated that the Examiner has accepted the drawings.

Rejection Under 35 U.S.C. § 112, first and second paragraphs

Claim 1 stands rejected under 35 U.S.C. § 112, first and second paragraphs. These rejections are respectfully traversed.

In order to overcome this rejection, Applicants have amended claim 1 to address the issue specifically pointed out by the Examiner.

Support for amended claim 1 can be found in the specification as originally filed. For example, at page 9, line 17 through page 10, line 28 of the specification, the structure of “the separation passage,” that is “the secondary separator 20” is described in detail. From this disclosure and also from FIGS. 1 and 3, it is clear that the “front and rear walls (26, 28)” recited in proposed claim 1 are set apart from each other in the direction along the “feed passage 8” and that the “opposite side walls (36, 38)” recited in claim 1 are set apart from each other in the direction across the “feed passage 8.” Further, the above-indicated part of the specification explicitly mentions that “said detection means,” namely, “the optical sensor 40” has “an optical axis L.”

The Applicants respectfully submit that the claims, as amended, are fully supported by and adequately described in the written description of the invention, and particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, first and second paragraphs are respectfully requested.

Rejection Under 35 U.S.C. §103(a)

Claims 1-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Brand et al. (U.S. 5,645,086) or Kazuichi et al. (JP 29-57173) in view of Okumoto et al. (EP

0165080) and further in view of Labbe et al. (U.S. 4,121,596). This rejection is respectfully traversed.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the present application, independent claim 1 has been amended herein to recite a combination of elements directed to a shredded tobacco feeding apparatus including *inter alia*

"a separation passage defined by front and rear walls apart from each other in a direction along said feed passage and by opposite side walls apart from each others in a direction across said feed passage and defining a width of said separation passage, said separation passage having an upper end opening into said feed passage downstream of the inlet to said feed passage and having a lower end opening downward; ...

detection means arranged in said separation passage at a location lower in level than the intermediate portion thereof, for detecting stagnation of the shredded tobacco delivered to said separation passage, said detection means including an optical detection axis extending along the width of said separation passage".

The Applicants respectfully submit that the combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Brand et al. (U.S. 5,645,086), Kazuichi et al. (JP 29-57173), Okumoto et al. (EP 0165080), and Labbe et al.

The Present Invention

An object of the present invention is to provide a shredded tobacco feeding apparatus capable of reliable detection of stagnation of shredded tobacco in a separation passage thereof.

To achieve the object, the detection means of the feeding apparatus as claimed includes an optical detection axis extending along the width of the separation passage. Accordingly, the detection means can detect stagnation of shredded tobacco over the entire width of the separation passage.

Stagnation of shredded tobacco in the separation passage makes it impossible to smoothly carry out the secondary separation of shredded tobacco. Once shredded tobacco stagnates inside the separation passage, the stagnant tobacco rapidly grows up to the feed passage and obstructs the flow of shredded tobacco to be fed to the tobacco band through the feed passage.

Therefore, stagnation of shredded tobacco in the separation passage needs to be detected in early stages. With the detection means of the present invention, such stagnation of shredded tobacco can be detected early.

The References cited by the Examiner

The Examiner concedes that Brand et al. and Kazuichi et al. do not disclose a detection means or a removing means for accumulations of shredded tobacco in the separation passage.

Okumoto et al. (EP 0165080) merely discloses a photoelectric detector 52, and Labbe et al. (US 4,121,596) merely discloses height monitoring devices 52 and 54. However, the sensors of Okumoto et al. and Labbe et al. are attached to the front wall or rear wall forming the chimney 31 or the channel 40, and thus have a stagnation detecting line extending across the gap defined between the front and rear walls.

Therefore, neither the chimney 31 of Okumoto et al. nor the channel 40 of Labbe et al. correspond to the feed passage of the present invention.

Further, the height monitoring devices 52 and 54 of Labbe et al. do not detect stagnation of shredded tobacco in the channel 40; they merely monitor the height (amount) of shredded tobacco stored in the channel 40.

Assuming that the sensor 52 of Okumoto et al. is applied to the Brand et al. (Kazuichi et al.) apparatus, then the sensor 52 is located in the trough-type feed passage 27 (5) of the Brand et al. (Kazuichi et al.) apparatus. Consequently, the sensor 52 is unable to detect stagnation of shredded tobacco in the separation passage 8 (44) and thus is not equivalent to the detection means of the present invention.

If the sensor 52 were arranged in the separation passage 8 (44) of the Brand et al. (Kazuichi et al.) apparatus, the sensor 52 would not be able to detect stagnation of shredded tobacco over the entire width of the separation passage 8 (44) along a direction across the

feed passage 27 (5). To implement such detection over the width, a large number of sensors 52 need to be arranged along the width direction of the separation passage 8 (44).

Therefore, neither Okumoto et al. nor Labbe et al. can make up for the deficiencies of Brand et al. and Kazuichi et al.

At least for the reasons described above, the Applicants respectfully submit that the combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Brand et al. (U.S. 5,645,086), Kazuichi et al. (JP 29-57173), Okumoto et al. (EP 0165080), and Labbe et al.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested. Independent claim 1 is in condition for allowance.

Dependent Claims

Further, dependent claims 2-9 are in condition for allowance due to their dependency from allowable independent claims, as well as for the additional novel limitations set forth therein.

Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) are respectfully requested.

All claims are now in condition for allowance.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 208-4030 (Direct Line).

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

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Respectfully submitted,

By


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